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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

Amendment of Parts 2, 22, 90 and 94)
of the Commissions Rules and Regulations)
to Permit Routine Licensing and use of)
Bi-Directional Signal Boosters)

RM-8200

To: The Commission

COMMENTS OF JACK DANIEL

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Dated: April 12, 1993

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Summary

Jack Daniel, d.b.a. The Jack Daniel company, conducts business as a manufacturers representative and radio system design consultant primarily in the states of California, Arizona and Nevada.

The practicality and suitability of employing radio signal boosters to overcome radio signal propagation degradation within building basements and other obstructed areas has become more reasonable than many other alternatives, such as increasing base station transmitter power levels or adding additional high power base stations which increase the potential of interference to other licensees over a wide area.

Licensees desirous of being compliant to the Commissions rules, as well as the commenter, have had difficulty in determining proper and consistent license application procedures relative to signal boosters under the current rules as there is not always an appropriate station class or other implications relative to a specific radio service frequency band.

There has been unofficial agreement by Commission staff, who have been contacted relative to this matter over the last two years, that the use of signal boosters as proposed by TXRX Systems Inc. would not materially alter the area of radio coverage or the levels of interference that would exist if there were no obstacles to the radio signals from the base station facilities already authorized to a licensee.

The petition for rule making by TXRX Systems includes suggested rules text that is both concise and complete as to the appropriate use of signal boosters and the users responsibility to prevent undue interference to other licensees, if any, that may be caused.

Since the use of signal boosters of the type and in the manner of application proposed by TXRX Systems, Inc. would not increase the licensed area of operation of a licensee, the commenter sees little justification in placing the burden of specific station authorization to use signal boosters within the authorized area of operation of a licensee upon either the signal booster user or the Commissions already overburdened licensing staff.

The use of signal boosters to improve radio signal level penetration into public buildings, hospitals and similar facilities within metropolitan areas may also complement the use of lower base station power levels, such as in proposed Part 88, which would otherwise be difficult to accomplish without additional base stations or other more elaborate and expensive means. This is of particular importance to Public Safety agencies who must have radio communications in many obstructed urban areas.

The commenter concurs with the petition of TXRX Systems, Inc. without exception and expeditious adoption of these proposed rules would serve the public interest and safety.

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Jack Daniel, an individual d.b.a The Jack Daniel Company, (hereinafter

"Daniel"), pursuant to Section 1.415 of the Commissions rules, hereby files his comments

Daniel has several years extensive experience in the use of signal boosters throughout the states of California, Arizona and Nevada by both industrial users and public safety type agencies. Daniel has conducted radio signal analysis in a wide range of obstructed areas, including large urban buildings, hospitals, underground disaster

The radio communications conducted by the licensees is urgent or critical to the purposes of the licensee, whether to reduce costs to the public through increased efficiency, to protect and reduce property losses or to protect public safety and reduce loss of life. These important missions are impacted greatly by the loss of radio communications within many structures where these services are most needed.

During a recent fire in a high rise office building structure in Los Angeles California, the most notable loss was the death of the maintenance engineer who's life may have been saved IF his portable radio could have communicated his location to other nearby radio receivers through the structures walls. This same blockage of radio signals within this structure impeded the actions of firefighters by requiring the radio messages to be vocally 'relayed' from radio user to radio user to get to an outer wall so that the external coordinating radio stations could receive the messages. The attenuation of the radio signals within this typical structure had degenerated the efficiency of a high performance radio system, as well as the functions of the fire fighters, to the level of an outdated and inadequate bucket brigade.

It is important to note that private radio systems have been historically designed for the use of vehicular mounted radio radios and that concept is often reflected in the Commissions rules. This is understandable as the rules were basically written at a time when vehicular and rural areas of operation was the dominant requirement for radio communications.

Today, there is an existing and growing need for urban radio communications that must use lower powered portable radios within areas where vehicles cannot operate, especially urban structures. A license that permits 30 mile radius of operation may encompass an entire urban area geographically but, in reality, the radio signal propagation may not provide reliable radio communications to as much as 25 percent of the people and equipment are located within that radius of operation.

Without the use of signal boosters, the most frequent means used to increase radio signal penetration into urban areas is to increase the base stations transmitted power levels. The lack of spectrum in metropolitan areas reduces the desirability of higher powered base stations due to need to reduce interference to adjacent channels and the reuse of the same channels at closer distances. A base station with power levels adequate to penetrate some structures usually generates high levels of signals in the surrounding open areas well beyond the needs of the licensee.

Regardless of how much radio signal power is transmitted from a high power base station, the capability of the base station to *receive* radio communications is not improved.

Other technical alternatives include the use of many distributed radio receivers and transmitters throughout the area of operations and even within individual structures. This is not only an expensive approach to initially install and to maintain over time, but requires considerable engineering effort and places additional administrative burdens on the Commission staff to review and authorize these facilities. For example, the effort

stations throughout a city. A situation similar to the FleetCall waivers, but multiplied by hundreds of applicants.

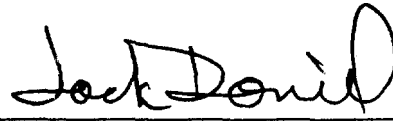
Perhaps more importantly to public safety licensees that consider the use of

In addition to the Petitions proposed rule changes, the Commissions existing type

III Conclusion

Improved use of authorized facilities is in the best interests of both the licensees and the public.

Daniel fully agrees with the Petition of TXRX Systems in its entirety and urges the Commission to promptly adopt the Petition as presented.

A handwritten signature in cursive script that reads "Jack Daniel". The signature is written in dark ink and is positioned above a horizontal line.

**Jack Daniel, d.b.a.
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Dated: April 12, 1993